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Vol. II

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No. 1

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PEYTON BOSWELL, Editor and Publisher

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VOL. II.

SEPTEMBER 15, 1909

NO. 1

The Social Demands of Modern Education

Shall Education Equip Men as Machines or as Citizens
of an Industrial Society?

BY PROF. FRANK T. CARLTON,
Albion College.

The educational field is not a peculiar fenced-in area, separated from other social sciences by distinct lines of demarcation. The great problems in education are similar in origin to many political and economic problems of the day, and require similar treatment. Categorical imperatives, cultural abstractions, class and race prejudices, red tape and the dead weight of the authority of tradition have no more place in education than in the political or the economic field. Like the questions of corporate regulation and taxation, of pure food and of the conservation of natural resources, the decision as to the proper sphere and content of educational work involves a delicate adjustment between the claims of society and of the individual members of society. The relative weight which should be given these two more or less conflicting demands is far different in the America of the twentieth century than in the America of the farmer frontiersman. It is here unnecessary to dwell upon the many obvious and hidden industrial and social changes of recent generations. The key to the solution of educational problems, however, will be found only through a careful study of these transformations. Recent writers and investigators have repeatedly presented the concept that society, in a much larger measure than any given individual, is responsible for the existence of dislike of school work, inefficiency, ill-health and criminality among the children of the nation.

More vital to the American people than tariff revision, workmen's insurance, child labor legislation, pure food laws or the conservation of natural resources is the conservation and efficient utilization of the ability and energy of the boys and girls of the land. In the light of modern social and industrial progress, the proper evaluation of educational methods and ideals is a basic social need. Modern sociology, repudiating the implications of the classical economists, is making man, not property, the center of its system. Human rights are held to be primary; property rights, secondary. The maintenance of a standard of living is at least as important and as commendable as the acquisition of additional dollars. Society from this higher viewpoint sees a new, yet old, vision. It reads, as if in large type, that the greatest wealth of any nation is bound up in its citizenship; and its citizenship is chiefly a social product.

If it is held up in the foreground and allowed to obscure the vision, the presentation of abstract educational ideals and values is a futile process, a mere pleasing, soul-soothing balm. The fundamental educational, as well as political and economic, problem relates to the development of healthy, vigorous, efficient, normal members of society. The great problem of the present era is to universalize opportunity for decent, healthy and comfortable living; it is to give each and every child the heritage of a child—decent home surroundings, sufficient and suitable food, opportunity to play, and a chance to use hands and brains in some form of constructive work. The solution of this basic problem may involve school dining rooms, domestic science laboratories, industrial training playgrounds, vacation schools, payment for school attendance, and also other social reforms which fall outside the purely educational sphere; but these are the fundamental educational requirements.

With this understanding as to the prime essentials, we may now justly, conscientiously and rationally ask: What is the proper standard for the determination of values in pedagogical science? How may the educational value of a given subject or method be determined? Methods and values change, of course, with the age and development of the child. Physiology and psychology must aid in the determination of appropriate methods. But outside and beyond the mere technical details in regard to furnishing materials in the proper form and at the appropriate time for the average individual lies the broader, but often neglected, task of shaping our educational ideals and values to fit conditions in the industrial and social world. As generation succeeds generation, as century treads upon the heels of century, social, political and industrial relations are transformed. The meaning and the scope of such terms as morality, law, justice, liberty, patriotism and nation change with the world's progress. In like manner are the meaning and the scope

of education changed. There is no fixed and cosmopolitan definition for any one of these familiar terms. Industrial organization quietly forces its peculiar impress upon each and all.

In democratic America, in a land of poverty, wealth and mixed nationalities, in an era of trusts, dynamos and labor unions, in an epoch which will be marked in history as transitional in regard to social and economic relations, in a period when education means preparation for life's activities, what from the standpoint of a student of social science are some of the important educational ideals—ideals which are essential when measured by the social standard or criterion of educational values?

(1) Education should be primarily vocational, rather than cultural. The school should prepare for activity rather than for leisure. Education ought to be a systematically organized process for putting the right man in the right place, for bringing to the surface and developing the latent possibilities of each and every child, rich or poor, black or white. Each child is a peculiar and unique bit of plastic human material, and ought finally to fit in some particular part of the world's mechanism. Many investigators are telling the American people of the enormous losses due to tuberculosis, typhoid fever and other diseases, and of the fearful wastes due to accidents, intemperance and other preventable ills. More attention should be given to the great waste in efficiency, productiveness and happiness due to the stunting of the individuality, the loss of spontaneity and the diminution of the efficiency of the student in the average crowded class-room of today. It should be one of the most important duties of the school to ascertain the capabilities of each child and to point out, in a general way, to each child the kind of work for which he or she is adapted. The loss to the world twenty-five years hence because we are aiming to make third-rate lawyers of persons who might be first-class mechanics, and clerks of those who might be high-grade chemists, is very great. Educational misfits and inefficient educational mechanism are costly. We are sorely in need of a statistician who will place the matter before us in dollars and cents. Let it be clearly understood, however, that no plea is here made for any artificial system which will lead to deepening or continuing class demarcations. The products of the school ought to be standardized, or rigidly divided into classes and grades; each child ought to bear the mark of individuality. This means smaller classes, better teachers, less red-tape, more money and more efficient graduates. In short, the school should be a studio, not a factory; but at the present moment the factory method seems to be gaining ground. Unless the reformers and the masses call a halt, our schools will be commercialized. The city schools of this republic are gradually and insidiously becoming standardized, large-scale brain-cramming and indi-

viduality-stunting factories. The demand for a "business administration" must be resisted in the name of educational science and of racial efficiency. Educational reformers must turn economists. Revenues can be adequately increased by diverting monopoly gains from the pockets of private individuals into the public treasury.

A recent criticism of the German systems of education is applicable in presenting this weakness in our educational system—a defect which an important and powerful element in our population is attempting to clothe with honor and dignity. The German systems of education "are incomparable so far as their purpose is the production of scholars and teachers, or of officials and functionaries to move the cranks, turn the screws, gear the pulleys and oil the wheels of the complicated national machinery"; but they "are far from being equally successful in making of character and individuality." This is a system the spirit of which calls for the commercialization of the public schools. This is the sort of school system whose north star is business and profits, not individual development and human brotherhood. The potent push toward such a lop-sided system comes from business demands and class interests, and is partially, at least, antagonistic to the broader ideal of social welfare and racial progress. We who do not manage machinery, direct commercial enterprises or manipulate the stock markets, we whose eyes are not constantly focused upon the industrial prowess and trade acuteness of the American directors of big businesses, can more or less definitely see the deadening effect of factory methods in the school house; and we can see that in order to be in accord with democratic ideals the fascinating economic lure which has hypnotized the employers of labor must be subordinated to the demands of social good and racial efficiency. It is high time that our educators, our students of social problems, our workingmen, our farmers and our professional classes stand forth boldly and contest the right of big business to direct the educational and political affairs of the nation. The fanaticism and the short-sightedness of industrialism is daily becoming more dangerous and deadly to the race and nation.

(2) The ideal school of the present and of the immediate future is not that of a tiresome place where students congregate more or less willingly to listen, to study and to be repressed. The school should be a hive of activity. It should be a place where practical and personal experience is broadened and made intelligible. The school must become a workshop, a studio and a center of refining and ennobling influences. The ideal school, primary, secondary or collegiate, is one to which students *come*, not one to which they are *sent*. In the school of the future, more will be made of the first-hand experiences of the students. Mere book study and memory drill will be given a subordinate place. Each individual has his

own problems, his own interests, his own likes and dislikes. To work along the oft-mentioned line of least resistance we must utilize these individual experiences and peculiarities. This necessitates reliance in no small measure upon the laboratory method, and a close connection between theory and practice, between class-room and the busy outside world. Again, educational science is beginning to evaluate, as it should, according to the social standard, precept above preaching, character above outward conventional conformity, good environment and good example above strict rules of conduct, the warm heart above the iron hand.

(3) Human relations in the present age are characterized by increasing interdependence and co-operation. The members of this great nation, yea, of the globe, are knit together and inter-related, industrially, politically and socially as never before. World markets, division of labor, aggregated industry and consolidated railways, are making social and industrial democracy an inevitable outcome. The study of industrial and social progress shows clearly that the educational system ought to exert its influence to break down class demarcations. If it lives up to its social mission, the school must stand firm for equality of opportunity; and it must teach respect for manual labor. Under present conditions to effectively present the ideal of the dignity of labor and of service is very difficult; but it will become increasingly easy. Today few can attain positions of great wealth. Wealth getting through the exploitation of natural resources and the subdual of natural forces is withheld from the great majority of the eager and ambitious youth of the land. As a consequence, the social ideal of service to humanity is beginning to replace the familiar individualistic ideal of personal attainment of wealth. For example, a college president, addressing the graduating class of 1909, proudly pointed to the fact that few, if any, graduates of that institution were men or women receiving large incomes. The youth lives upon ideals. Block the way to a sordid and individualistic goal, and behold, he turns eagerly and passionately toward a social goal—the uplift of struggling humanity.

If the educational system of our country is to be a potent factor in bringing about social betterment through peaceful, rather than violent, means, it must emphasize those ideals which lead to useful industry rather than idle parasitism, which point to service to humanity rather than wealth accumulation. The school must unreservedly teach that the idlers and the useless workers are parasites, and that the idle rich are at least as dangerous as are the idle poor. If education is approaching a scientific basis, it ought to be able to discover and to measure the social inertia which carries aristocratic medievalism down into an age of nominal democratic industrialism.

(4) The school should reach workers as well as non-workers. Education and industry once went hand in hand; through the introduction of manual training we are attempting to again unite them. But the vital need of the present is education for those who are forced to enter our shops, stores and offices without coming into contact with the training which our schools ought to give in science, history (not chronology) and literature. The ideal school of the future will not close its doors in the face of the worker as the whirling wheels of the factory stop, the click of the typewriter ceases, and the constant hum of the cash carrier dies away. No educational system which does not aim to reach young workers as well as those who are not obliged to early earn their daily bread is worthy of high rank in the present era. The public schools have not adequately provided for the educational needs of the young workers; this work has been largely left to the private correspondence schools and the Y. M. C. A. night schools. In preceding centuries the burden bearers of the race were considered to be unworthy of an education. Because of social inertia and class demarcations, our ideas in regard to the proper scope of a public school system are still influenced and colored by the old prejudices against the wage earner. The high school, the continuation school, the college and the university ought to stand ready to help any one in the community in any important line of study or of investigation. The school system should be for "any one, anywhere, any time."

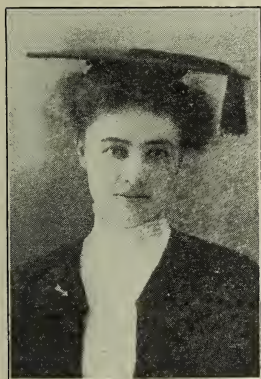
(5) The true function of education is to be a social directive agent, and to reduce social maladjustments; or, in other words, to be the trusted servant of sociology. The final and only stable standard of educational values is sociological. Heretofore, educational advance has lagged behind social progress. Science is gathering data for directive, purposive social action; and it is the function of sociology, the science of human society, to reduce the friction which retards and oftentimes temporarily diverts the onward march of human progress. Since sociology is still distant from a true scientific basis, education must also remain in a measure unscientific. Only general rules can be laid down; and men having different ideals and class interests must necessarily differ in regard to them. No one is justified, however, in condemning or approving an educational process or method because it is old or because it is new. Each and every educational method and ideal, old or new, must be constantly subjected to careful and unbiased scrutiny from two dissimilar standpoints—that of psychology and that of sociology. The educator, let it be repeated, who overlooks one or both of these criteria stands condemned in the light of modern scientific and historical knowledge. He has not grasped the fundamentals of pedagogical science. His place is in the machine shop or the counting room, not in the school.

Planetesimal Theory of the Earth's Origin

BY MAY WOOD-SIMONS, PH. D.

[*EDITORIAL NOTE*—This is the first of a series of six papers dealing with the newest discoveries and theories in the domains of science and philosophy. Chemistry will be the subject next month, while Biology, Psychology and Economics will follow. The last paper will be on "The Philosophy of Education."]

An eminent scientist once made the statement that all living, vital knowledge is in the minds of men and that by the time it is printed in books it has already become antiquated. This remark is at least illustrative of the rapid advance that science is making through new discoveries.



The *planetesimal theory* of the origin of the solar system has but recently been set forth in book form and though no doubt it will be greatly modified as later investigations are made, it is at present a working basis for the majority of scientists.

There are but four groups of men whose opinions on this subject carry any weight. These are the astronomers, the physicists. The astronomers are important because they have investigated solar systems with the best astronomical apparatus so far devised; the geologists because their studies of the earth have thrown light on its origin and its process of growth; the mathematicians because the question to be discussed involves complex mathematical computations; the physicists because of their knowledge of matter and the laws of energy.

Until recently the theory of the origin of the solar system as formulated by Laplace and known as the *Nebular Hypothesis* has been accepted by scientists. To make the planetesimal theory clear it seems advisable to briefly state the main points of the older theory and the objections that have been urged against it.

The nebular hypothesis presupposed a gaseous globe in the heavens, the substances of which, as the gases gradually cooled, came together in crusted masses, forming what are now the planets, while the central residue remained and constituted what is now the sun. This gaseous globe extended, of course, beyond the present orbit of Neptune, which is the farthest planet from the sun. As to

the origin of this gaseous globe, it was believed to have arisen through the collision of two large bodies. The globe, it was held, was in a condition of extreme heat and the gases were greatly rarified, owing to the intense heat. The planets were supposed to have been formed in this manner:

The gaseous globe was rotating in the same direction as the present solar system, and as it rotated it lost its heat by radiation and consequently contracted, which increased the speed of rotation. Now two forces, the centripetal and the centrifugal, were holding the gaseous substance in place. But with the cooling and shrinking of the gaseous globe, attended by greater speed of rotation, there came a point when the increased centrifugal force at the equator equaled the centripetal force. When this point was reached the outer gaseous matter at the equator would cease to contract and the remainder of the globe, continuing to cool and contract, would draw away from it, leaving a *ring*. This ring in turn would cool and contract, then break at the weakest point, and the entire substance finally draw together in a mass which would grow denser and denser until it would become solid. In this manner, it was argued, all the planets were made, Neptune, the farthest, first, and all the rest in their turn.

The planets, in their turn, while cooling and contracting, it was held, threw off other rings that collected themselves each into a smaller spheroid known as a satellite or moon.

This theory, thus briefly stated, presents various difficulties. First, it is not believed that the equatorial matter would have separated in definite rings from the larger gaseous globe, but rather would have been left behind in disk shapes. Neither is it believed that rings of gas would have collected into spheroids so easily as the theory supposed.

While there are several other objections, there is one that is most serious. There is a law in physics that the momentum of a rotating system remains the same, no matter what internal changes take place in it, provided nothing affects it from without.

Professor Moulton, astronomer at the University of Chicago, has shown that if the solar system were to be converted into a gaseous spheroid so expanded as to fill Neptune's orbit and distributed in density so as to conform to the laws of gases (and if the momentum now possessed by the solar system be given to it), it would not have a rate of rotation sufficient to detach matter from its equator, and it would not acquire such a rate until it had contracted well within the orbit of the innermost planet.

The planetesimal theory of the origin of the solar system was developed by Professor Thomas C. Chamberlain, head of the department of geology at the University of Chicago. He was greatly

assisted in his investigations by Dr. F. R. Moulton, head of the department of astronomy at the same institution.

The development of the theory has been much aided by the perfection of photography that enabled the investigators to secure more accurate data as to the real form of nebulae. The examination of many hundreds of photographs of nebulae show that they are spiral in form and characterized by the presence of two arms, as is shown in the accompanying photograph. These arms arise from opposite sides of the nucleus and curve concentrically away. Further ex-



Photograph of Nebula, Showing Its Two Arms

amination discloses numerous nebulous knots or partial concentrations on these arms.

We will now consider the origin of these nebulae according to the planetesimal theory. There are probably at least 100,000,000 suns in our galaxy of suns. Besides these suns there are numerous dark bodies—bodies without heat and light. All of these are moving in various directions with various velocities. Under these conditions there is strong probability that these bodies will at times collide and still greater probability that there will be many times when bodies will closely approach each other. These approaches will not only be between suns, but between suns, which are fluid, and dark bodies, which are solid.

Now as to the effect of such approaches of two bodies, one of which is a sun. The substance of a sun is in a condition of enor-

mous elasticity. Our present sun shoots out protuberances to the height of many thousands of miles. These protuberances move at velocities reaching up to 300 miles and more a second.

Suppose now that, with its forces thus evenly balanced, the sun is approached by a body larger than itself, perhaps many times as great in mass. When this happens the gravity that has restrained the elastic power of the sun's substance will be reduced along the line of mutual attraction.

Just as in the case of the tides, there will be protuberances on both sides of the sun. These protuberances on opposite sides furnish the explanation for the presence of two opposite arms in the spiral nebulae. If the approaching body is very great in mass, the sun may be disrupted.

The knots of solar nebula are supposed to be the nuclei about which gather the planetesimals to form the future planets.

The planets then were not originally hot gaseous rings that, contracting, formed intensely heated gaseous spheroids, as the nebular hypothesis presupposed, but are due to the aggregation, about the knots of the nebula as nuclei, of finely divided solid or liquid matter. That the matter was solid or liquid, and probably mostly solid, is borne out by the continuous spectra of spiral nebulae. It is also conceivable that the innumerable solid or liquid particles which the continuous spectrum implies revolved about the common center of gravity as though they were planetoidal bodies.

The gathering-in of the planetesimals in the forming of the planets was due to the crossing of their elliptical orbits in the course of their inevitable shiftings.

The earth was not once, as the majority of geologists believed during the past century, a molten ball that gradually through cooling formed a crust covering the entire surface, but even after the forming of the crust having a temperature of over 2,500 degrees F. All the water of the globe, so runs the older theory, was still contained in the hot gases that enveloped the molten ball.

According to the planetesimal theory, the earth has grown from probably a much smaller mass by the aggregation of smaller bodies that gathered into it. These smaller bodies may have been cold. It is probable that the earth, instead of beginning as an intensely heated body, has instead had a slowly rising internal temperature, rising as the mass increased and the consequent pressure at the center grew greater.

The hot envelope of gases of the nebular hypothesis gives way to a probable time when the earth had no atmosphere at all, when it was too small to hold gases. That is the present condition of the moon, which has no atmosphere because it is not large enough to hold gases. Such was once the condition of the earth. When it was about half its present size it began to hold an atmosphere. It

then had sufficient mass to control the flying molecules of atmospheric material. Just what the mass of a body must be to hold an atmosphere is not exactly known. It is known, however, that the moon has no such atmosphere and no body smaller than the moon holds gases.

The theory of the origin of the atmosphere according to the older hypothesis is well known. Its origin under the planetesimal theory presents many points of difference. When the earth had reached a point in its mass growth sufficient to control the molecules of atmospheric materials there were two sources from which these could be supplied.

First, there was an external source. The collision of the growing earth with particles of atmospheric material, so soon as it was able to hold them by gravity, was one source of the atmosphere. Another was the internal source. As the planetesimals were gathered into the earth they carried some gases with them. Atmospheric material was thus built into the earth itself. These gases were given forth later and fed the atmosphere.

While the manner of the origin of the spiral nebula is an interesting part of the planetesimal hypothesis, the vital thing in the theory is the proof that the scattered nebular material revolves around the central mass in elliptical orbits.

It is conceived that the nebula is due to a combination of an outward and rotatory motion which, while giving a spiral form to the whole, is believed to have given to each individual planetesimal an elliptical orbit about the common center. The proofs of this involve mathematical computations that it is unnecessary to go into here.

To men of science the formulation of this new theory of the earth's origin is of much importance. Numerous pages of geology must be rewritten, as many of its conclusions have rested on some hypothesis of the earth's origin. The astronomers, too, will find much new material to handle now that apparatus has enabled them to examine more closely other solar systems even now in the process of making.

Fortunately there is among many scientists a real spirit of investigation that does not hesitate at change of views when facts make such change necessary, and the planetesimal theory has met with comparatively little opposition.

There are probably not a dozen scientists today whose opinions have weight who have not accepted it.

Social Conditions and Theories in the Græco-Roman World

BY W. A. OLDFATHER,
Associate Professor of Classics, University of Illinois.

FIRST ARTICLE

The General Problem

[*EDITORIAL NOTE—This series of papers will appear consecutively in the Progressive Journal throughout the second volume.*]

There appeared not long ago a cartoon in one of our daily papers in which, arrayed among the forces opposed to progress, the head of one of our great eastern institutions of learning was caricatured clad in academic garb and holding under his arm a huge tome inscribed "Ancient History." I select this incident as perfectly typical of a widespread, indeed, almost universal prejudice, which assumes that the study of the past is unfavorable or at least unrelated to a progressive frame of mind and wide sympathies with the duties and problems of the present and the immediate future. The prejudice is natural, for those who have never studied closely the civilization of any period of past history are more impressed by its superficial and therefore striking dissimilarities, and fail to appreciate the profounder and subtler unities of the moral and intellectual life.

It is true, as an editorial in a peculiarly notorious morning paper tells us, that Solomon never had a bath in a porcelain tub, and went to bed by the light of a tallow dip, while the Queen of Sheba visited him riding in the hot sun on the back of a camel, but there were men of that race and age whose moral concepts are woven into the warp and woof of our daily conduct and whose very words are still clean-cut and crisp after the lapse of more than a score of centuries.

If the appreciation of a difference is essential to the most elementary processes of thought, the discovery of similarity, that unity in diversity which we call a "law" marks the highest triumph of imaginative discernment, and if it be in any sense true, as is so often stated, that the man who knows no language but his own cannot know even that well, the same holds with especial fitness in the study of social and political conditions. He who is familiar with the life of more than one great nation at more than a single period of its development has a background, a touchstone, a parallel and

an instance to clarify and sober his judgment of each present event and tendency, which the man who is all engrossed in the life at his elbow tips cannot so much as appreciate. At any given period the currents and counter-currents are so numerous, the longest possible period of personal observation at best so short and the discrimination between the deeper movements and the mere transitory phenomena so difficult, that the man who boasts overmuch of his up-to-dateness is very likely to have no real comprehension of the very life with which he so loudly professes to be perfectly conversant. On the other hand the student of past civilizations which have left anything like adequate records has the whole sweep of events from first to last for his observation, can separate the fundamental from the accidental, if not otherwise, at least by the mere fact of survival, while, if his range be but wide enough, he can find a time and a place where most if not all tendencies observable at this present time had, severally, each its opportunity to develop to its natural conclusion and so to disclose that true nature which is so often likely to be hidden by the medley of conflicting trends which make up our modern social life.

The student of past civilizations has thus a vast and well-stocked museum in which to carry on his studies, while the mere up-to-date man has only what might be called a laboratory, were it not that he is privileged merely to observe demonstrations, and only if he be the rarest and most fortunate of men, occasionally allowed to take part in an experiment. It is the combination of Geology and Biology that has given us Palaeontology, the most illuminative of all natural sciences, or to change the figure, the telescope is quite as essential to the understanding of the Cosmos as the microscope.

The field of Graeco-Roman civilization, to which I shall devote my attention, has for us a typical value. In that world are the fountain springs of our own culture, and vastly more than most men realize comes from it to us directly by borrowing and assimilation, or indirectly by stimulation and suggestion. It will be long, if ever, before we shall cease to draw new lessons and inspiration from some different aspect of its many-sided life. Nor is the field so narrow as many would suppose. It stretches over a millennium and a half and embraces the sharpest contrasts as well as the most varied developments. From Homer to Lucian is as great a step as from Chaucer to Bernard Shaw, and the contrast between the social and political outlook of an Agamemnon, a Solon, a Pericles, an Alexander, a Tarquin, a Scipio, an Augustus and a Diocletian would be vivid in the extreme.

It were superfluous to speak of what literature, the arts, science and philosophy owe this civilization, but even that one science—if it really yet deserves the name—which alone the Greeks cannot properly claim to have founded or greatly to have advanced, Political

Economy, has learned much and may learn yet more from the same source. Rodbertus insisted that "we should refill our political life with more of the spirit of antiquity"; Lorenz von Stein was never wearied of drawing parallels with the ancient world, declaring that "we re-live the past for ourselves in our study of what the ancients were and did"; Roscher as early as 1849 protested against the extreme individualism of the *laissez-faire* doctrine and called vigorously to mind the Political Economy of the Hellenes, "who, in the study of wealth, never made the error of forgetting mankind," and he recalled "with respect and gratitude" what Thucydides had taught him of Economics.

In the general and wide-sweeping change which has come over the study of Political Economy, in which the unhindered operation of purely selfish and utilitarian principles of conduct has been condemned and the demand made for a combination with moral and ethical considerations, a tendency which Sismondi, Roscher, Knies, Wagner, Sombart and Schmoller among many others have especially emphasized, accompanying their arguments by direct citations of the Greek economists and philosophers, the spirit of the best social thought of classical times has largely come to its own. Poehlmann rightly has traced in this movement the closest relations to Plato and Aristotle, and Knies has himself shown that this tendency manifested itself just among those economists trained in the predominantly humanistic schools of western Europe. Was it not Aristotle himself who protested vigorously against the *panta eateon* (lit. *laissez-faire*) doctrine of the advanced individualism of his age? (Cf. Poehlmann, "Geschichte des Antiken Kommunismus und Sozialismus," I. 183; and "Aus Altertum und Gegenwart," p. 120 f.) You can of course contrast with this the notorious dictum of Cobden who declared that there was more to learn in a single number of the "Times" than in all the books of Thucydides. But to put this remark in its proper setting must be added Cobden's other firm belief that all governments were permanent conspiracies whose object was to cajole and plunder the common people. To a man with so low and primitive a conception of the state it is not surprising that Thucydides contained nothing of interest. This stage of political development the Greeks had outlived, or perhaps better, had never experienced at all.

How infinitely superior is the conception of the Hellenes, that in the state alone, extending its reach over all phases of life, the individual develops to his highest capacities. It was this very ideal which the great master of classical philology of the last century, August Boeckh, after years of profoundest study of Greek political and economic conditions, extracted as the most precious social lesson of antiquity, whose adoption he urged upon the Germany of his day—as he expressed it, "that we should widen our notion of the

state so as to feel that the state is that institution within which the whole virtue of humanity should be realized," words which express the highest socialistic ideals so perfectly that Ferdinand Lassalle took them over without change as embodying in classic form the essence of the socialistic doctrine of the state.

When we now turn to consider what relations social conditions bear to political, how the different classes of society are related to one another and to the state, we are but treating the same problem which the ancient political and social science raised. Long ago Aristotle, following Plato, sought and found the cause for changes of constitutions and the new aspects which political parties assume in the economic and social conditions of the different classes of society. Aristotle taught that "the constitution is (i. e., is *made* or *interpreted* by) the ruling class in society," and that states differ essentially only in so far as a capitalistic minority, the great mass of small property holders, or the proletariat, happen to form the ruling class, and whether each class is able when in power to carry through its whole program or is hampered by the vigorous opposition of the other classes. So profoundly had Aristotle appreciated the importance of the economic element in the study of administration that no less an authority than Lorenz von Stein asserted that his "Politics" will be for the Political Science of the future what Copernicus' "Organon" has been for astronomy, and again, "Aristotle, following Plato, was the first to recognize *property* and its power as the irresistible factor in the formation of all positive political constitutions; the man that does not know Aristotle is ignorant of the meaning of *property*. It is time we recognize in him what he can rightfully claim as his true historical possession," and this is nothing less than the discovery of the so-called *Materialistic Interpretation of History* in that province where its claims are, if anywhere, safe against criticism—i. e., the development of forms of government.

That which Aristotle saw so clearly was not recognized in modern times until after the French Revolution, when the world was surprised to see that the victors of the revolt—the Third Estate—did not represent the whole people, but that a fourth, the propertyless class, came forward with a program and demands which in many particulars were fundamentally opposed to the interests of the *Tiers Etat*. It was this experience which gave the death blow to the theory that the state and the nation is but a mass of individuals, each with the same or at least similar interests, instincts and opportunities, and neglected the notorious fact of the *stratification of society into economic classes whose interests are inevitably and under the present system must remain more or less antagonistic to each other*, in whatever way that antagonism may express itself, whether it be by protest, persuasion or action, and that peaceable or

revolutionary. Is it not strange that even to this day, when the waves of social unrest are sweeping over the whole world, when even India and Japan, Turkey and Persia are following in the steps of Europe and America, there should yet remain, especially in educated and wealthy circles, the old individualistic, atomistic conception of society, and that, too, though Aristotle's "Politics" has not been a sealed book, and the whole history of the last century and a quarter has but confirmed his views?

If, then, Aristotle set down principles of social development which hold for the present, it needs must be that the society with which he was familiar had passed or was passing through these stages, and must therefore show phenomena highly analogous to those of our day. The basis of the ancient free state was the autonomy of its society—i. e., the sovereignty of that class of society which for the time being had control of the machinery of government. The elements of the organization of society—property and its distribution, the social forms and organizations—had such fundamental importance in all these relations that the development of the ancient state depended almost wholly on what class, capitalist, bourgeoisie or proletariat,* had the deciding influence in public life.

The fatal results of this system are known in their harrowing details. After a longer or shorter period of bloom, following the political revolutions of the sixth and fifth centuries, during which the contrasts in wealth and prestige of the earlier period were diminished and the poorer people enjoyed a tolerable, often an enjoyable existence, there developed anew sharply defined economic classes which inevitably brought the democratic state into the throes of social revolution. The egoistic trend of commercial competition turned to the seizing of the organized power of the state as a leverage for forcing through those measures which benefited its own interests, and every social antagonism was at once reflected in political life. The state became the arena of the savagest strife, where social classes fought one another with a ferocity rarely shown even to national foes, and the most frank and shameless professions of greed and self-interest became the rallying cry of political parties. Political differences changed everywhere into economic, open war was proclaimed between rich and poor, proletariat and property holder, till at length the tyranny of Macedon was introduced in an effort to preserve the social order even at the cost of national independence.

The terms of the treaty, sworn to after Chaironeia in 338, are of profoundest significance, for by them the government of each

*EDITORIAL NOTE—These words are used in their strictly arbitrary sense, meaning, respectively, the large property holding class, the small property holding class, and the non-property holding class. In modern society capitalist and bourgeois mean the same. Of course, capitalism, as the term is now used, could only be possible since the coming of the capitalistic, or modern industrial, era of machine manufacture.

Hellenic state was forbidden "to put to death or banish the members of the opposing party without due process of law, to confiscate property, redivide landed estates, or cancel debts." For the next two centuries the call for the forcible redistribution of property was the battle cry of the disinherited masses, until Rome violently crushed the disturbances and with them the vital, fructifying life of Hellas for all time.

On a vastly larger scale the same was enacted at Rome, where an imperialistic plutocracy through criminal mismanagement and neglect prepared the way for the desperate revolutions of the last century of the Republic, whose inevitable outcome could be Caesarism alone. There still rings from the first great epoch of this social revolution at Rome the cry of Tiberius Gracchus to the disinherited Roman proletariat in words which without a single change might be heard today in any social revolutionary gathering: "Even the beasts of the field have their lairs, but the citizens who have fought for the honor and the glory of the state have no place to lay their heads. Naught is left them save light and air. Is it not a burning insult when generals before battle dare to remind these men that they are fighting for their hearth and home, the altars and graves of their fathers? *Where* is their hearth and home, where the altars and graves of their fathers? It is not for their own homes, but for the lust and greed of others that they bleed and die, and these men who are styled the lords of earth cannot call a single clod their own."

Can there be a better education to prepare us for the great social struggles of the present than the study of this period of Graeco-Roman civilization, where we can observe on a limited stage, in the simplest thoroughly comprehensible form, clear-cut as statuary, because in perfect openness and unrestraint, the factors and forces develop and work out their logical destiny, knowledge and appreciation of which in the field of the state and society is the prerequisite of all political education? How much easier it is to observe the causal relations in these fields, whose smaller size and less complicated constitution allowed forces to play in the quicker interchange of action and reaction, and so shortened the length of time which elapses between cause and effect in comparison with the vast and cumbrous states of modern society. The transformation of political into social parties, which has only fairly begun nowadays and has not yet penetrated the whole of society, the wresting of the lawmaking, the law-enforcing and the law-interpreting functions of the state to subserve the interests of a social class, these tendencies, which are in their incipiency in European and American civilization, were in that ancient world, with an impressive disregard of immediate consequences which characterized especially the Hellenic spirit, carried to their extremest logical con-

clusions, and that, too, not in a few years, but during a development which covered centuries and under the most diversified types of social organization that the world has ever had to show—aristocracy, oligarchy, plutocracy, democracy, republicanism, representative government, constitutional monarchy, absolutism with its attendant bureaucracy, and all conceivable combinations of *polities*, monarchical, aristocratic and democratic in mixed and varied proportions. The result was everywhere one and the same, the disintegration of society into mutually antagonistic social classes, whose violent struggles brought in a military dictatorship, under whose crushing weight the whole of ancient culture and civilization sank finally to the ground.

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Note:—The purpose of these articles is primarily to render accessible to an English speaking public the results of the best foreign scholarship of the last few decades. In so doing I follow, often very closely, the truly epoch-making writings of my former teacher, Professor Robert Pöhlmann, of the University of Munich. Of his two great works, "Aus Altertum und Gegenwart," collected essays on the Social Aspects of Antiquity, appeared in 1896; the first volume of his "Geschichte des antiken Kommunismus und Sozialismus" in 1893, the second in 1901. Other works of a general nature and of exceptional merit are:

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An Economic Interpretation of American History

BY A. M. SIMONS.

EIGHTH ARTICLE

Industrial Conditions at the Beginning of the American Government

[*EDITORIAL NOTE*—This series of papers, which gives a view of United States history not to be found in any of the school histories, began in the December, 1908, number of this periodical. The first volume of the *Progressive Journal*, containing the first seven of the articles, can be furnished either bound or unbound.]

At the birth of the United States government in 1789 there was little industrial foundation for national solidarity. The ruling classes of the different states had been brought together by the common fear of a proletarian uprising and the common need for a central government for the furtherance of a few immediate interests. It was easily possible that another decade might see these interests so divergent that the central government would fall to pieces of its own weight. The only thing that could prevent this was the growth of a national industrial life.

The foundation of any general industrial solidarity must be looked for in the conditions of communication. The method of transporting goods determines the extent of the market, and in any industrial stage the size of the market, for the great staples will have much to do with determining the extent of the political unit. When Washington took the presidential chair transportation in the United States was but little different from what it was in Rome when she was mistress of the known world. If any advantage existed it was in favor of the earlier civilization, for the Roman commerce of Caesar moved over highways whose very ruins are the wonder and admiration of modern engineers, while American commerce in Washington's day was painfully dragged over corduroy roads, through unbridged rivers and morasses of mud, that made any extensive profitable interchange of goods over long distances unthinkable. It was less expensive to exchange goods between Massachusetts and China than between Boston and Tennessee.

The arrangements for the transmission of intelligence were little more effective than for the carrying of merchandise. When independence was declared there were but twenty-eight postoffices within the boundaries of the thirteen colonies. Fourteen years later,

in the second year of Washington's first term, when the administration of the new government was fairly under way, there were still but seventy-five. Yet the population was over three million.

The rates of postage were so high as to be almost prohibitive. For a single sheet of paper going less than thirty miles, the rate was six cents. From this point the postage rapidly rose, until to send a single sheet more than 450 miles cost twenty-five cents.

Four-fifths of the population were engaged in agriculture; or perhaps it would be more nearly correct to say that what was then considered agriculture embraced four-fifths of the industrial life. These farmers harvested their grain with sickles like those Ruth saw in the fields of Boaz. They threshed their grain with a flail, such as their Aryan ancestors brought from the plains of Central Asia when they set out upon that long westward march, of which the colonization of America was the latest and longest step. Although Jefferson was engaged in the first attempt ever made to mathematically calculate the form of a plow which should do its work with the least expenditure of energy, two generations were to pass away before plows constructed on scientific principles were to be found on American farms.

Cattle, horses, hogs and sheep were of a character that no modern farmer would permit to encumber his fields. Cattle were kept almost exclusively for their hides and as draft animals, although here and there in New England some butter and cheese were made. They were seldom stabled or fed, and winter swept them away with epidemics of "hollow horn." Although Messenger, the founder of the American Hambletonian trotting horse, was imported in 1788, and Justin Morgan, the sire of the once famous Morgan horses, was born in 1793, yet as a whole the horses of the United States were insignificant in numbers and character. Considerable effort had been made to improve the breed of sheep, because of the pressing need of a domestic supply of wool for weaving. Several states had passed laws to encourage sheep-breeding and forbidding their slaughter for food, while the first Merinos were imported in 1793.

Nor did manufactures show many signs of improvement over the methods which had been in vogue for centuries. In England the Industrial Revolution was in full swing. But England was jealously guarding the mechanical secrets that were fast making her the industrial mistress of the world. In spite of this, the very same year that the political machinery of the United States government was first set in motion, Samuel Slater landed in America from England, carrying in his head the plans of the new machinery for weaving and spinning. One year later the first cotton mill in the New World was started at Pawtucket, Rhode Island.

Until the establishment of this factory only woollen cloth had

been made in the United States, and this was produced almost exclusively in the households of the farmers and village workers. Here and there the looms were being gathered into factories. The processes of carding and spinning were even further along on the road toward the factory stage. The Revolution, like every war, had acted like a hotbed in forcing the growth of such budding industries as supplied army contracts. The demand for uniforms and blankets tended especially to push the weaving industry along the road towards the factory system.

Iron and steel were produced by methods that would not have seemed strange to the ancient artificers who prepared the materials for the metal workers of the Middle Ages. But the stacks were growing larger; the "puddling" methods of producing steel had just been invented, and in general this industry, like all others, showed signs of the coming change.

In thousands of New England homes were to be found the miniature forges and anvils around which the farmer and his family, including young children, engaged in the manufacture of nails. Jeremiah Wilkinson's machine for making cut nails was invented the year before the signing of the Declaration of Independence, but it had not as yet found its way into the world of industry.

The shoemaking industry had already begun to concentrate in the Massachusetts cities, where it is now located. The tools of the trade were still the lapstone, last, awl and waxed-end—as they had been for a thousand years and more.

While, superficially, industry seemed to be sleeping the sleep which it had slept for centuries, signs of awakening were evident on every hand. Shipbuilding and commerce had already reached the stage of great industries. The ships of New England were turning watery furrows in every corner of the ocean, while her merchants were among the most powerful in the world. It was the owners of these industries who were accumulating the capital which, invested in the machinery of the Industrial Revolution, was destined, a generation later, to change the whole face of social life.

Moreover, this machinery was everywhere making its rude beginnings. In England inventions for the production of power and its application to spinning, carding and weaving, were already approaching completion. In 1790 Fitch's steamboat was making regular trips up and down the Delaware. But he was still looked upon as a half-insane crank, and was destined to reap the usual reward which the competitive system bestows upon those who perform great social services, while another man and generation were to utilize his ideas and reap the benefit of his genius.

In transportation a perfect mania for turnpikes and canals was raging. Nearly every state had from one to a dozen such projects under construction—or discussion. The stock of turnpike and canal

companies rivaled the certificates of the public debt as a medium for speculative gambling.

Population had begun to move over the Alleghenies at a rapid rate. The western settlements were still largely confined to Kentucky and Tennessee, and contained few settlers from any of the northern states. The wealth, population and apparent industrial strength of the northern and southern states were almost exactly equal at this time, with the advantages, if at all, with the south.

Tobacco was still the principal southern crop. Cotton was as yet ginned by hand, making it unprofitable to raise anywhere, save in the tidewater region. We are not surprised to learn, therefore, that there was a strong abolition sentiment throughout Virginia and Maryland, where the tobacco plantations were scarcely worth working and where slaves seldom brought more than a couple of hundred dollars.

This was the industrial situation when George Washington became the first president of the United States. We shall see, in the next paper of this series, how these conditions expressed themselves politically, and how political conditions were used to further certain phases of industrial development.

E D I T O R I A L

B y P E Y T O N B O S W E L L

A CRISIS IN EDUCATION

It is generally accepted by all concerned that the United States is in the midst of a revolution in education; that the obsolete system that has projected itself down for so many years from a previous social stage into present industrial society is scheduled now to go; that the new educational system must conform with the *demands* of the new industrial society that has developed in the last fifty years in this country. That this change is coming—is even now in process—there is almost unanimity of opinion among educators, among industrial captains, and among the masses.

So far, so good: education must be made to conform with the *demands* of modern society. But there is more than one *demand*; in fact, there are two distinctly antagonistic *demands*. With which shall the new education conform?

What are these two antagonistic demands of industrial society?
First—the BUSINESS demand, which requires that the pupil

be equipped in school as a perfect machine to take a certain place in the manufacture and sale of goods, and that all other forms of education that might tend to make him less obedient to the requirements of trade be dispensed with.

Second—the SOCIAL demand, which requires that, while the pupil must be equipped to perform effectively his share of the world's work in some specified department of activity, he shall also be so educated that he will become a thinking, cognizant unit in society, capable of understanding society and helping to guide its destinies.

If the first demand triumphs, it is inevitable that social stagnation will result; that society will become permanently stratified—one class owning and managing the earth, the other class doing the work, with the sole ambition of working and being fed.

If the second demand triumphs, a thinking working class will see to it that social evolution is not impeded, that the interests of the whole people are conserved and that industry becomes more and more democratized, to the end that mankind may be happier and healthier and wiser.

It is by no means certain which form of the new education will win. The *business* demand is championed by the class which now completely rules society, which possesses the powers of government—legislative, administrative and judicial—and also the powers (to a more or less extent) of the press and of the pulpit. If the *social* demand triumphs, the educational system will have to be literally *wrested away* from the capitalist class.

The fighters on the side of progress in this momentous conflict, on the outcome of which the very form of future civilization depends, will have to be the *educators* of the country and the *toiling masses*. These two forces, working together, can triumph. The future depends upon what they do.

It is this conflict that has called the *Progressive Journal of Education* into existence. It is important that its message reach both educators and masses alike.

SOME CURRENT HISTORY

Two events now transpiring in different quarters of the globe form excellent topics wherein the progressive teacher may lead advanced pupils to know something concerning the nature of modern society and the direction which its tendencies are taking. We refer to the Spanish war in Morocco and to the general strike in Sweden. These subjects will be considered here, one after the other, but no effort will be made to do more than barely outline each.

Of course, the progressive teacher has already made his class

understand that historical events in the main have their causes in economic fact; that national movements of conquest are due to the desire of the ruling class of a nation to gain material things, and that all history has mainly to do with the struggle between classes—either between the ruling classes of rival countries or between the ruling class of a country and its own lower or subjected classes—in short, that a nation's history is the history of the struggles of its classes.

The Spanish war in Morocco is a fair illustration of how the ruling class of a nation makes history by fighting another in order to gain wealth. Spanish capitalists had formed a company to exploit the mines in the mountains which lie back a few miles from the Moorish coast. This company started to build a railway from Melilla, on the coast, to these mountains. The Moors objected to this intrusion in their ancient country. Armed forces gathered to destroy the railway. Immediately the Spanish government, at the request of its ruling class, the capitalists, sent a large army to defeat the Moors and to silence their objections.

But there was an antagonism between classes in Spain itself—between the class of rich capitalists and aristocrats, who controlled the government, and the class of industrial toilers, who created all wealth and who had to pay the cost of the Moroccan campaign—either in blood or toil.

Manifestly the Moroccan war was against the interests of this class of toilers, so in Catalonia and other northern provinces they rebelled. The master class had all the advantage, so the uprising was quickly crushed and the Moroccan war went on to a successful conclusion.

The Swedish general strike illustrates a vastly more important phase of the struggle between classes which is making history at the present time, being as it was a part of the world-wide conflict between the two classes into which industrial society everywhere has divided itself—the possessing, or capitalist class, and the non-possessing, or working class.

Sweden is a poor country at the best—the conflict between Man and Nature in the production of wealth still being acute—so that the workers of the country have a hard time producing a sufficient amount to enrich the possessing class and leave enough for self-support. Perhaps on account of the acuteness of this conflict the working class of Sweden is better organized than in any other country. Of late years, through their trade unions, the workers have been able seriously to embarrass their masters, forcing them to give back more and more of the fruits of toil. But the coming of the world-wide industrial depression gave the employers a chance to strike a crushing blow at the unions. On account of the widespread unemployment which followed the panic, the working class

was placed still nearer to starvation and its power to resist oppression greatly lessened. Then came blow after blow at the unions, ending finally in the general lockout. The workers retaliated by the general strike.

Now comes the really significant fact. No sooner had the plight of their Swedish brothers been made known than the working classes of all the other industrial countries began to send funds to their aid. Thousands of dollars began to pour in from Denmark, Norway, Germany, France, England, Austria, Italy, the United States and even Russia and down-trodden Finland. The toilers of the whole world had become conscious of their mutual interest and of the necessity of standing shoulder to shoulder in the great conflict.

This is of tremendous significance. It means that the working class of the world is getting ready to make itself the ruling class, and that it is acquiring the intelligence and the spirit of solidarity necessary to accomplish this result.

But the working class can make itself the dominant class only by abolishing the other class—that is, by taking over and itself possessing through public ownership the vast properties for the production of wealth which are now in the hands of the capitalist class. And this is exactly the ultimate program asserted by the Swedish workers.

The teacher who can make his advanced pupils understand just what the world and its problems really are will be doing the greatest possible service to society.

Medical Inspection in Public Schools

BY LOUIS W. RAPEER,

Professor of Education, University of Washington, Seattle.

Medical inspection in the public schools rests solidly upon two great phases of progress of the last half century—the revolution of medicine from a kind of semi-quackery to that of an all-important and established science, and the change from the man to the machine in industry with the consequent unparalleled growth of large cities. Of course, other influences have been potent, such as the evolution of modern child-psychology and sociology, but the two above mentioned are basic.

We Americans have become so used to change and almost magical progress along certain lines that we should have little surprise if communication with Mars were some day established or

the propulsion of a great ship around the world with a gram of radium were accomplished; we do not keep track of progress made in our efforts to accomplish further development. But many people can recall, on occasion, the time when night air was considered dangerous; when tuberculosis was considered an inherited malady; when spinal curvature was said to be "due to a fall"; when deaf children were considered stubborn and willful, and the child of defective vision or the one suffering from a lack of air due to enlarged tonsils or adenoids was made to wear the dunce cap or "stay in after school," if nothing worse; when measles and scarlet fever were "diseases every child should have"; when diphtheria was a kind of quinsy or croup; when germs were practically an unknown mystery, and when physicians were merely for the purpose of curing or exorcising existing disease and not to prevent it.

Since 1880 practically all of this ignorance and awesome mystery suggested above has been swept into the rubbish heap of the past. Today in medicine there is "a new heaven and a new earth." For in these years Koch has discovered the bacillus of tuberculosis; Ebereth, the organism of typhoid fever; Klebs, the bacillus of diphtheria; Kitasarto, the bacillus of tetanus; Lavarin, that fever came not from "night air," but from the bills of ubiquitous mosquitoes; Fehleisen, the streptococcus of erysipelas; and Pasteur, with hundreds of other scientists down to those of the Rockefeller Institute, have laid bare the secrets of health and disease that have baffled the ages. Recently, a consecrated army physician has even discovered that a very large majority of the "poor, no-account white trash" of the South are what they are because of the debilitating effects of the "hook worm." Thus even what has long been termed "laziness" and "shiftlessness" in these people is coming within the influence of curative and preventive medicine.

This new knowledge coming to the *schools* has created the science of school hygiene, a tremendously important science having directly to do with the welfare, efficiency and happiness of future generations. Ventilation, exercise, playgrounds, heating, lighting, cleaning, adjusting school seats, number of hours of study and their proper distribution, the need of physical work, defects of sight, hearing, breathing, feeding and clothing; in all these particulars and many more the schools of the past have been found inadequate, and the physician's knowledge and skill necessary to remedy. Progressive normal schools have begun systematic instruction for actual or intending teachers in the elements of personal and municipal health, children's diseases and defects, body training, and all the essentials of school hygiene. And soon all American teachers will be examined as much upon their knowledge of how to prevent the deaths of our hundred thousand school children who

perish each year as upon their knowledge of how to prevent twelve-year-old children from failing in examinations on the subjunctive mood or cube root.

Increase of medical knowledge has made possible a tremendous improvement in the prevention of death, disease, retardation and wasted lives among school children; but it has been the concentration of millions of people in our congested *cities* that has forced the *application* of this knowledge to actual school conditions. The wonderful inventive genius of the Yankee has turned the world upside down. The old isolated and individualistic life has passed away. Wonderful machines for transportation, communication, manufacture, agriculture, and even recreation, along with combines, corporations, specialization and infinite division of labor, have made possible these city conditions; and today we have *half* of our population, and east of the Alleghenies about *three-fourths** of our American population living in these unnatural conditions. And to complicate matters, we have millions of immigrants, ignorant of all laws of health and destitute of modern ideals crowding into the already overcrowded cities, and, "like worms in a knot," creating our slums.

This is the problem of the school: to develop into social efficiency in these conditions and with present knowledge the future American people. Not one city has been built with the children in mind—even the streets are not left long for play—but all have been built *by business for business*. It is now time that the inventive Yankee and the new American turn some of their frenzied energies and genius into making the city a place in which people (and children) may live as well as do business.

In the school, medical inspection will be the beginning, the entering wedge, of this new movement toward making the cities inhabitable and men healthier. Of course, this is a *semi-socialistic* movement, but the *whole tendency* of modern education is *semi-socialistic*. *The school itself is our most socialized institution;* and the school is the *only* institution by which the new knowledge for the new conditions may be thoroughly popularized, made a part of the common people's thought and habits of living. And furthermore, the school is the only institution which amalgamates all races, sects, traditions and "previous conditions of servitude" into the new American. It is the only institution in which the people as a whole have implicit confidence, amounting almost to a fetich. Says John Dewey, the great prophet of modern education:

"Education is the one thing in which the American people believe without reserve, and to which they are without reserve committed. Indeed, I sometimes think that the necessity of education

*New York is 72 per cent urban, Illinois 54 per cent, Massachusetts 91 per cent, and Rhode Island 95 per cent.

is the only settled article in the shifting and confused social and moral creed of America."

If the workmen of America wish to promote the spread of the benefits of public education among themselves and all the people they will do well to see to the establishment in every school system of a department of school hygiene including medical inspection. It is not a fad, but a social movement for human betterment.

In the June number of this periodical we spoke of how the *playground* movement is sweeping the country and even the world. But medical inspection is more fundamental, broader; and medical inspection quickly shows the *need* for play, recreation and directed physical work like manual training and domestic science. It has preceded the playground movement by several years, although it was shunted off the educational path in many systems by making it a part of the duties of the health departments and so dividing responsibilities and bringing in bad politics.

Medical inspection of this form was established in Boston in 1890; in Philadelphia, 1892; Chicago, 1896; New York, 1897. Since, it has spread to a great many smaller cities of the country.

The agitation for medical inspection began in Europe as early as 1830. Since then school physicians have been appointed in many cities of France, Holland, Sweden, Belgium, Germany and Austria, and have been doing good work even in Egypt, Japan, Argentina, Russia and many other countries. It has progressed very slowly in the United States under the pressure of the two forces mentioned above, but bids fair to become soon the most powerful means of combating disease and degeneracy; and of raising the national standard of mental and manual efficiency and skill.

To show the scope of the movement of which medical inspection (or medical *supervision*, as it is perhaps better called when under direction of the public school system and vitally connected with educational procedure) is a part we can do no better than quote Professor Snedden's statement of the work of a department of physical education:

"The work of such a department should embrace at least the following lines: (a) Inspection for contagious diseases and fixing of quarantine. This work now performed by the board of health might still be retained by it, or, if transferred, should require closest co-operation with the board of health, for in this respect the entire community is immediately concerned. (b) Examinations of school children for defects and procuring remedies therefor. Glasses, surgical operations, etc., should be required of parents unless these could show inability to provide the same, in which case the community must bear the expense; and the enforcement of the doctor's prescriptions requires the school nurse. (c) Med-

ical supervision of the conditions of school education, such as furniture, lighting, drinking facilities, sanitariums, print of books, hours of instruction, program of work, methods of teachers (in so far as these react harmfully on children), lunch rooms, playgrounds, games, etc. (d) Supervision of teachers to the end that these are themselves preserved in good physical condition, that their teaching and control conform to the requirements of hygiene, and that they are equipped to impart necessary instruction in hygiene. * * * (e) Administration of games, physical exercises and special forms of physical instruction."

Such work will soon be a *compulsory* part of all good American schools; and the state of Massachusetts has paved the way by making medical inspection, with some examination, a compulsory feature of all school systems. Boston has perhaps the best system in the country under the supervision of the greatest leader of the movement, Dr. Thomas Harrington. His free reports, as well as that of Superintendent Maxwell of New York City for 1907, and the book by Dr. Luther Gulick on "Medical Inspection of Schools," should be in the hands of every promoter of the social welfare.

The first twenty nurses in Boston during the first semester of school in 1908 reported the following cases among the school children attended to:

"Diseases of: ear, 1,492 cases cared for; eye, 6,078 cases cared for, including 3,649 suffering from defective vision, of whom 1,131 were corrected by oculists; nose, 2,602 cases, of which 1,405 had adenoids, 423 of whom had obstructions removed; mouth, 1,765 cases, including 1,686 who had carious teeth; throat, 1,695 cases, including 683 of hypertrophied tonsils, and 608 of tonsillitis; skin, 10,139 cases, all of which were followed to their homes and the parent or guardian instructed how to care for the same."

Over seven thousand home visits were made to instruct parents, and hundreds of cases of malnutrition, renal disease, rachitis, epilepsy, chorea, anemia and heart disease were treated. When we remember that on the average seventy-five per cent of the school children in our large cities are of foreign parentage, we see the great need of medical inspection, including the home instructions of the visiting nurse. As principal of a large public school in Minneapolis for several years, I learned that the above figures correspond to the actual conditions. In fact, I would almost be willing to guarantee to pick out in any school room in the country which has not had the advantage of medical inspection *two children* whom their teachers and parents find dull, continually suffering from colds and ill health because of *adenoids* alone. So, if we are citizens responsive to the needs of the age and the cries of the little children, medical inspection will not long be delayed.

To be brief, this discussion will be concluded with a few

rather dogmatic statements of facts which seem to stand out in relation to this problem in the hope that they will prevent wasteful experiments in the wrong direction and promote the efficiency of the work:

1. Medical inspection, or medical supervision, should be in charge of the board of education and school authorities.

2. The need of medical supervision is not confined to the city, but exists in the country and small villages, but not to so great an extent. Like industrial education and other phases of school work, medical inspection will spread from the cities to the country schools.

3. The first step to take in this work after it has been decided upon is the appointment of a competent director—a man who is not only a physician, a physical trainer and teacher, but a social leader. Such a man is hard to find now, and when found must be paid a good salary, not “on the same schedule with the high school teachers,” as one superintendent recently proposed, but on the schedule of the superintendent himself if possible.

4. Teachers must be instructed in their professional training before and after entering the service in the laws of personal and public hygiene, and in the relation of medical supervision to public welfare. Any teacher can in a week learn either from clinics for the purpose or from a good medical text on children’s diseases how to diagnose defects of vision, hearing, adenoids, enlarged tonsils, anemia and several other diseases, and how to get the parents to have the children treated after being notified.

5. The school nurses are an almost indispensable adjunct to the school and should be a part of every system of medical supervision. They do the work which the teacher with her forty or fifty children to teach cannot well do—make examinations, report cases, take children to clinic or dispensary, and instruct parents in the homes.

6. The people should be led to feel a need for medical supervision in the schools by a judicious use of the newspapers, circular letters, lectures at the school and churches, exhibits and the like. Many social experiments have failed because there was not first developed a conscious need in the minds of the people for a change.

7. Finally, the educators, especially our superintendents of schools, should be more conscious of their place as *leaders* of social opinion, *not followers*, and as *experts* guiding the people, and not entirely as *politicians* following the detailed instructions of laymen. Wherever there are real leaders with social intelligence, social responsiveness and social efficiency, there medical supervision will take its proper place as an educational agency.

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